

UEFA Champions League Data Analysis Project

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Motivation and Background

The UEFA Champions League is one of the most popular sports tournaments worldwide.

Analysis important for teams in the competition to adjust to new opponents

Important for the sports gambling industry

Research Questions

Based on past performances in the Champions League, which team is most likely to win the competition?



Main
Research
Question

What are the win percentages of all teams in the competition home and away?



What are the average goals scored for a team home and away?

Used to
calculate the
coefficient

Methodology

Filter Data using 2008-2015 subset

Aggregate Win and Goal Data (Home/Away)

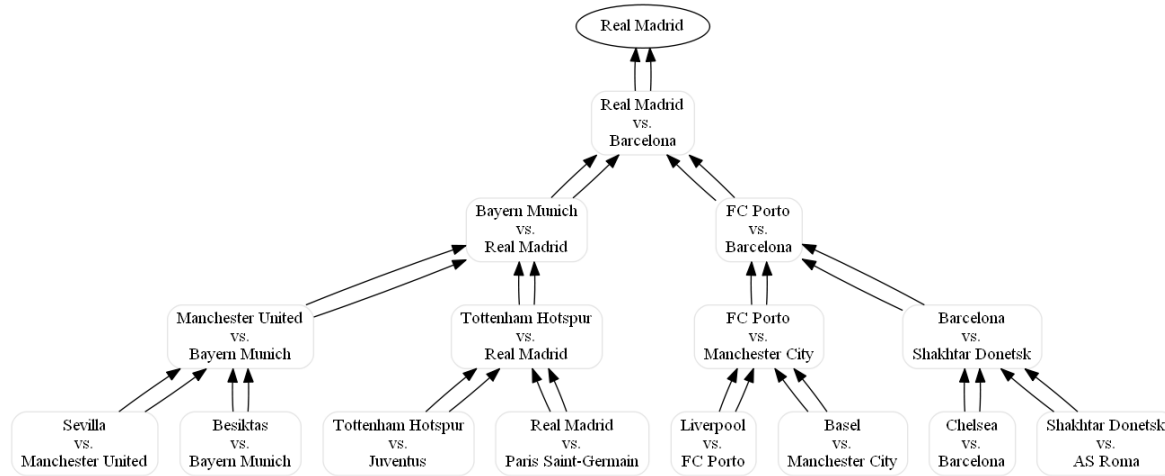
Calculate the coefficient for every team

Visualize top 10 teams win % and goals scored

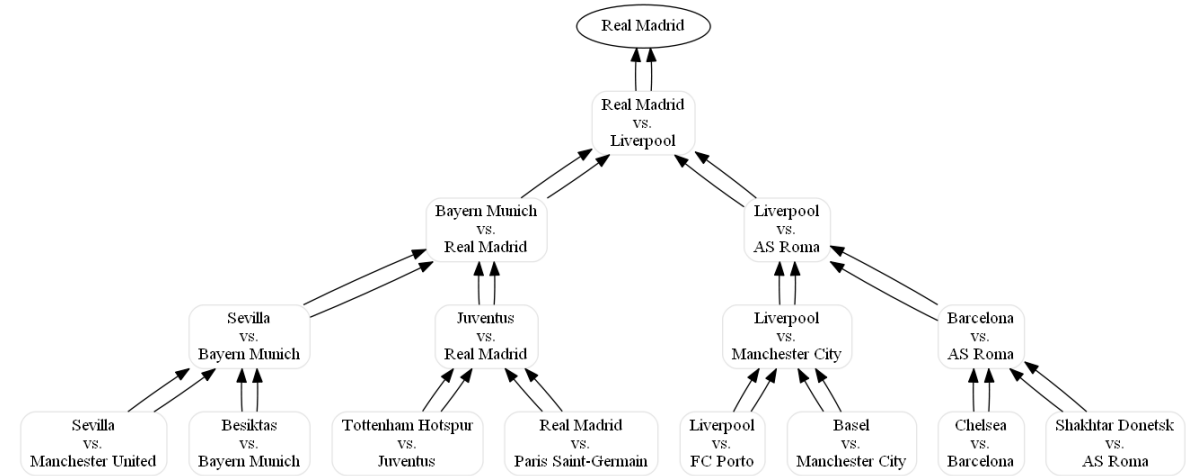
Use a *Regressor* ML model to predict coefficients

Visualize coefficient data with tournament brackets

Coefficient (2017-18 Season)

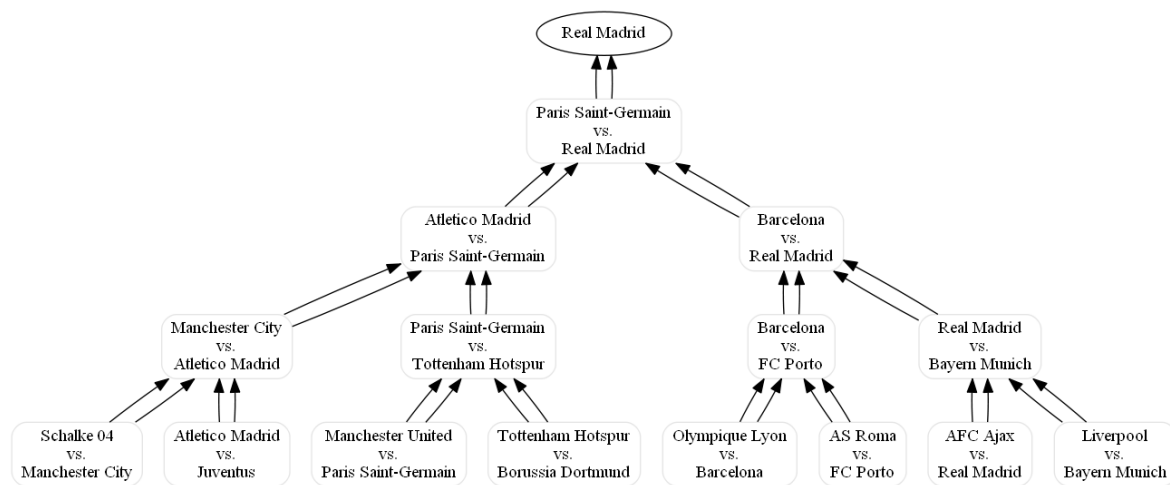


2017-18 Predicted Bracket

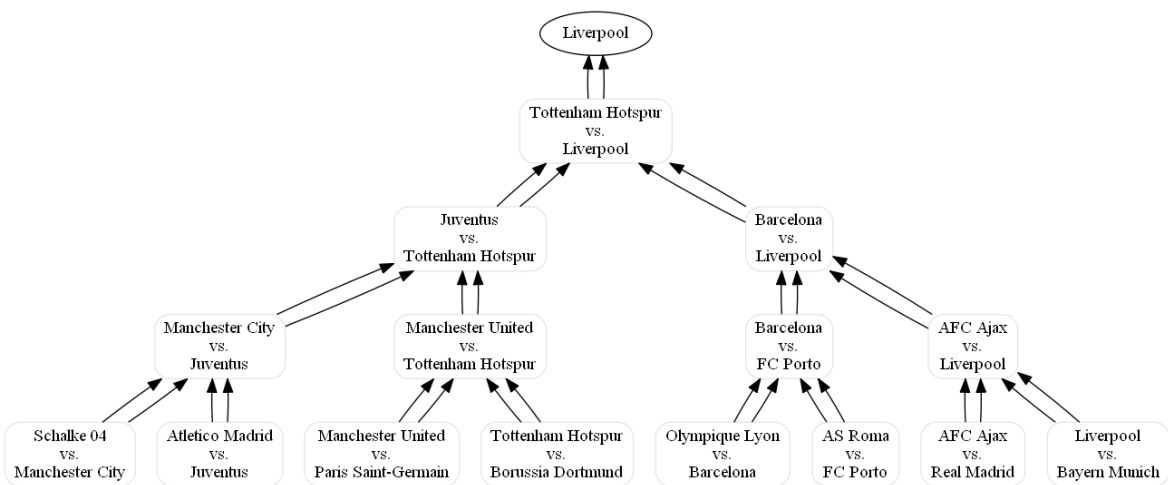


2017-18 Actual Bracket

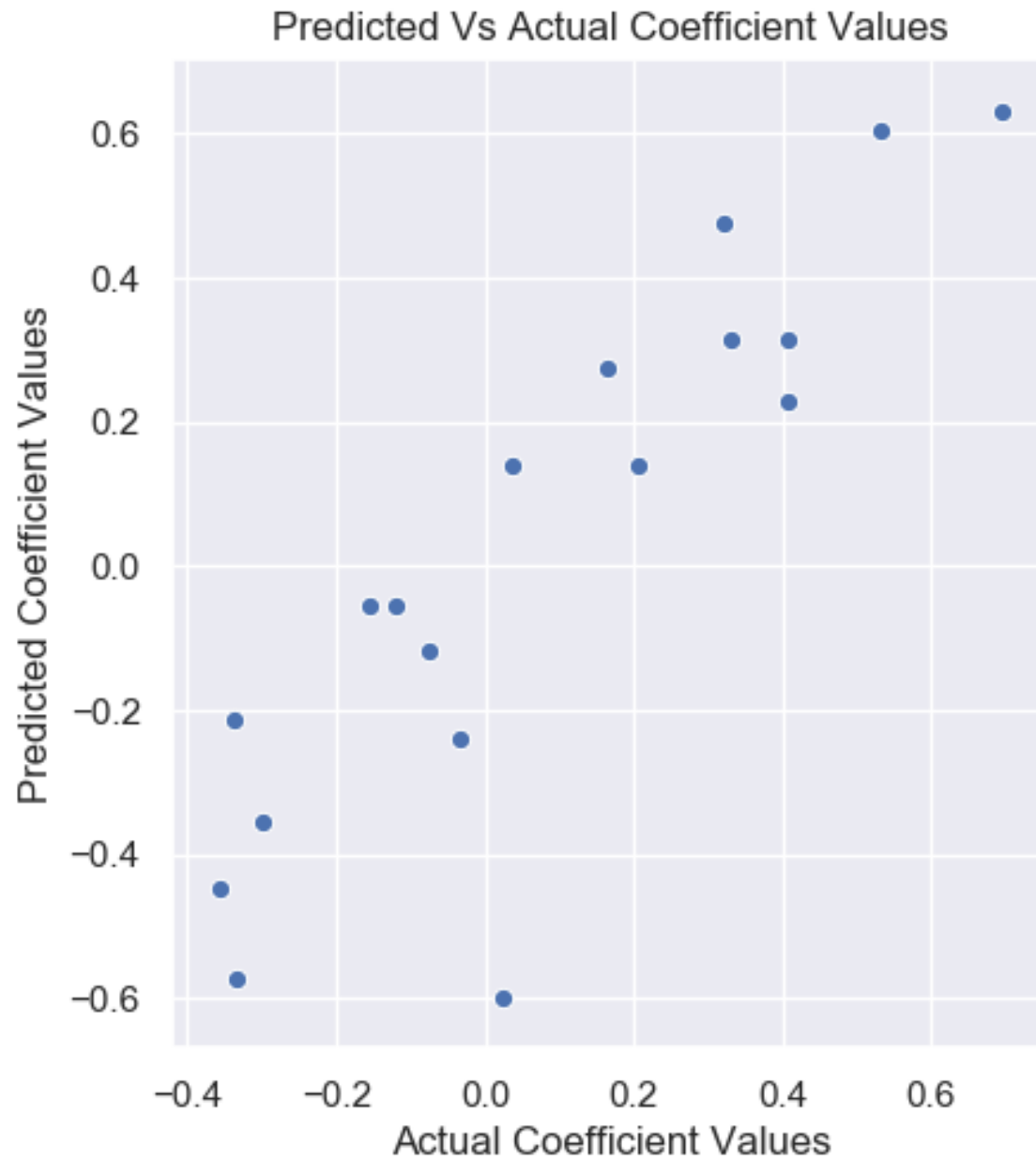
Coefficient (2018-19 Season)



2018-19 Predicted Bracket

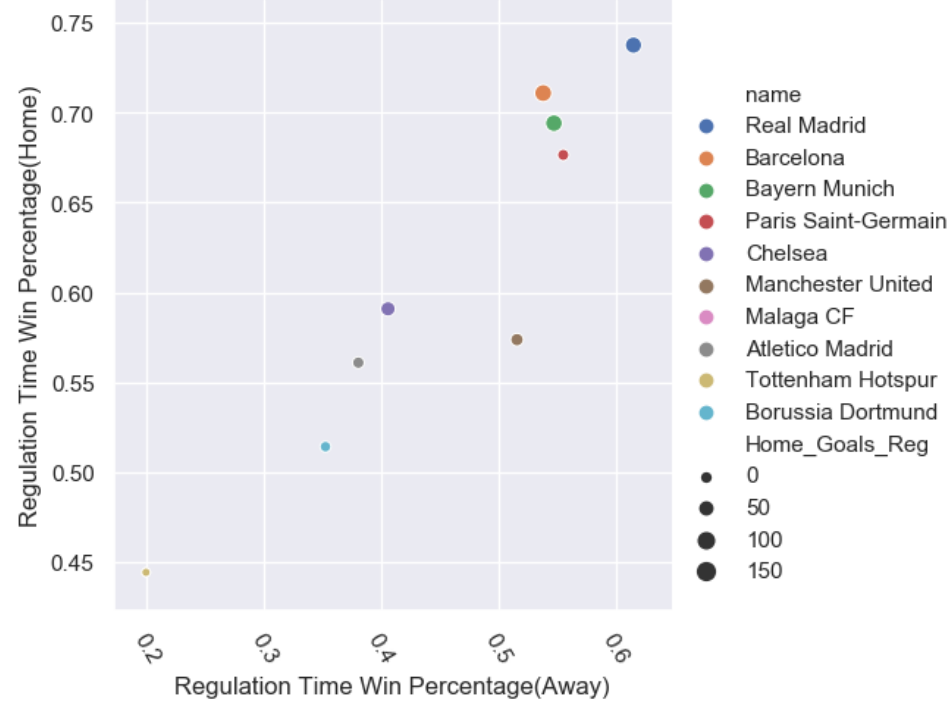


2018-19 Actual Bracket

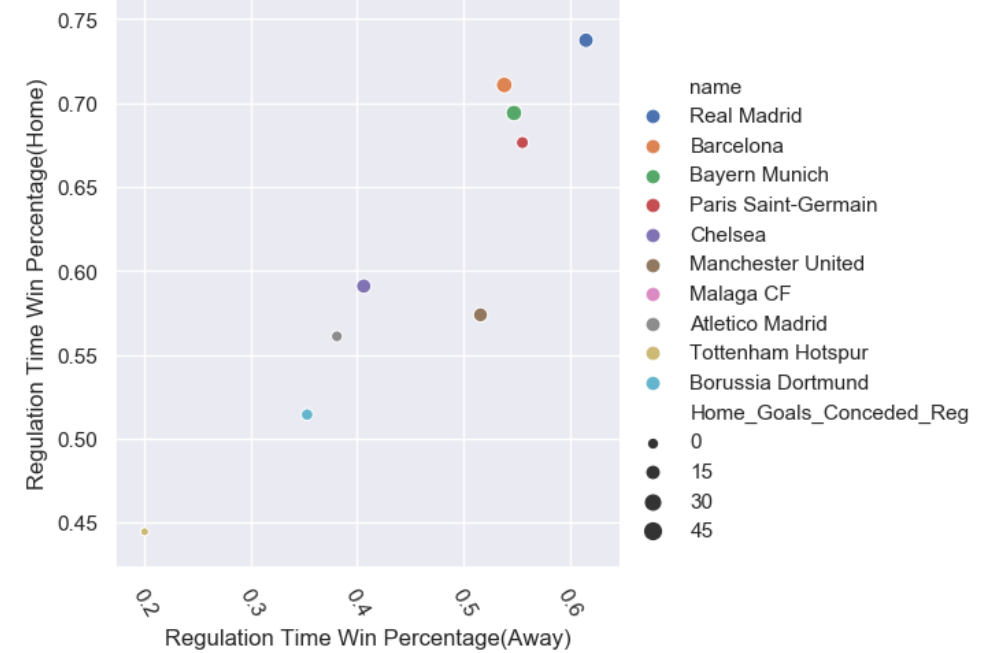


Results (Coefficients)

Home Win Percentage vs Away Win Percentage of Top 10 Teams by Home Goals Scored

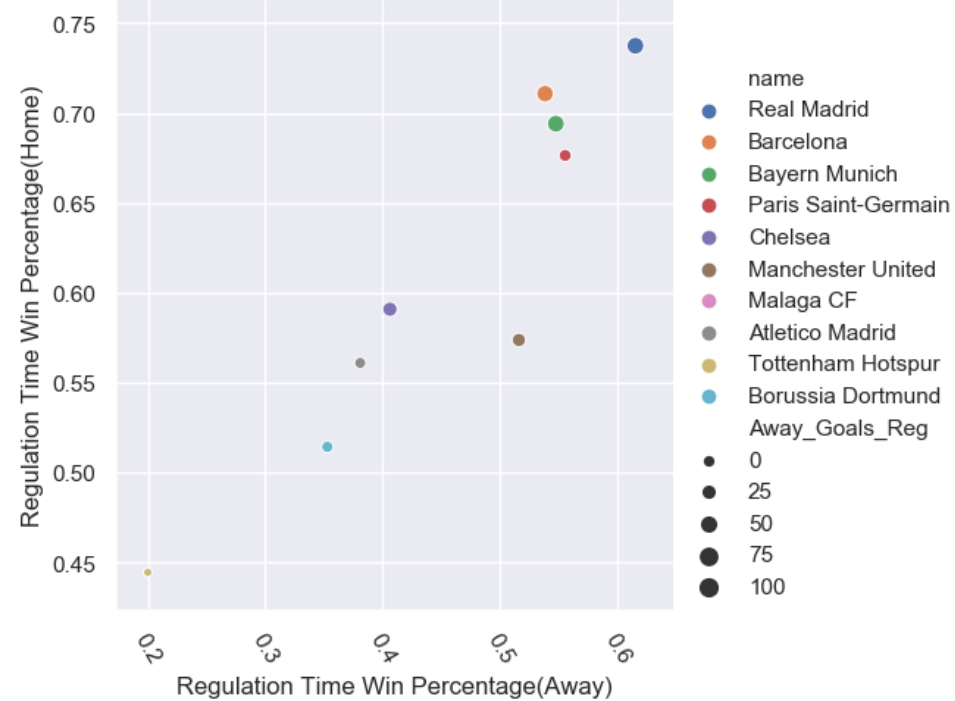


Home Win Percentage vs Away Win Percentage of Top 10 Teams by Home Goals Conceded

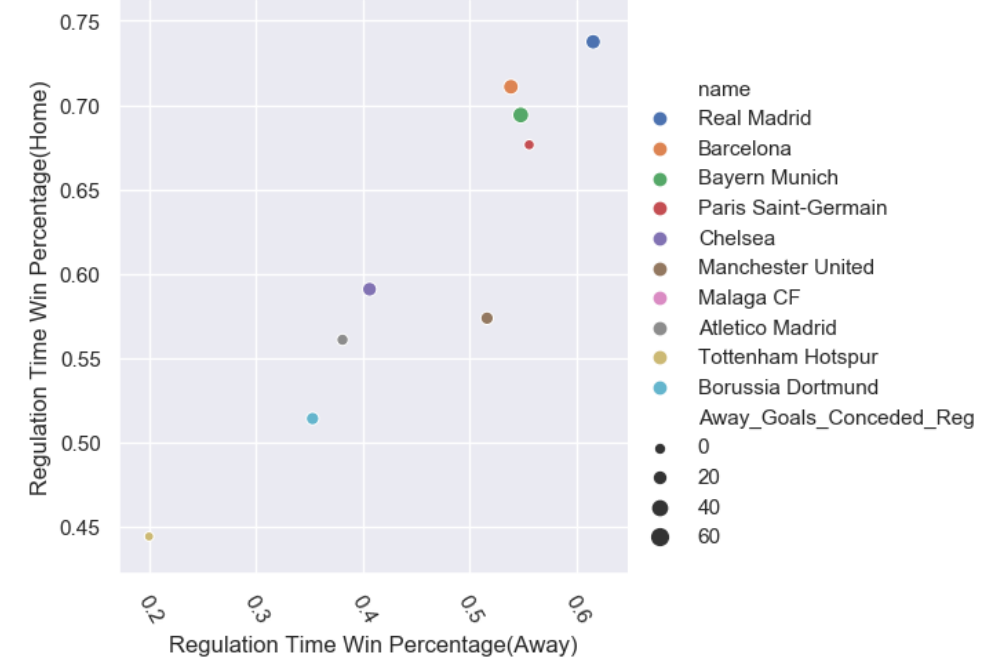


Results (Home Goals Scored/Conceded)

Home Win Percentage vs Away Win Percentage of Top 10 Teams by Away Goals Scored



Home Win Percentage vs Away Win Percentage of Top 10 Teams by Away Goals Conceded



Results (Away Goals Scored/Conceded)

Future Work

Calculate team coefficients by year and use a ML model to predict future coefficients based on that teams current trend

Use ML to predict the score between two teams given their match data and coefficient

Match domestic league data with Champions League data to see when teams peak in performance throughout the season

Extend bracket visualization to include group stages and scores